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PATENT ABSTRACTS OF JAPAN

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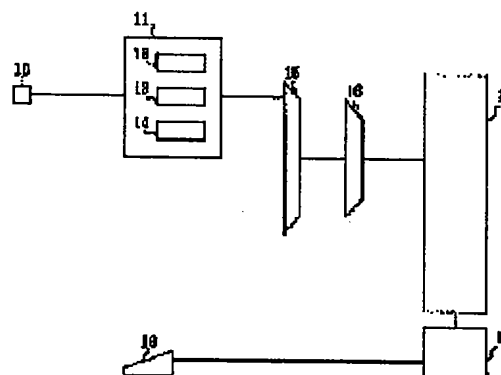
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(54) FAULT INFORMATION NOTICING SYSTEM FOR ELECTRONIC EXCHANGE

(57)Abstract:

PURPOSE: To enable the maintenance personnel to recognize a fault in real time when the fault takes place in a subscriber circuit in a stored program controlling of electronic exchange.

CONSTITUTION: A self-diagnosis section 13 of a subscriber circuit 11 detects a fault of a subscriber circuit 11, and a fault noticing section 14 informs the fault to a central processing unit 18 with a fault noticing section 14 by using a time slot. Then a fault data controlling program in the central processing unit 18 controls fault information to display the fault information of the subscriber circuit 11 on a maintenance terminal equipment 19 in real time.



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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Industrial Application] This invention relates to the notice method of fault information of the stored-program-control-type electronic automatic exchange.

[0002]

[Description of the Prior Art] The operating state of the processor of the electronic automatic exchange is always displayed on a maintenance employment terminal, and the fault information is always expressed to the maintenance terminal as the notice method of fault information of the conventional electronic automatic exchange. On the other hand, although the failure of a subscriber circuit is outputted as the failure list of routine test results, or a failure message, a maintenance man can recognize fault information of real time no longer from a printing result.

[0003]

[Problem(s) to be Solved by the Invention] By the notice method of fault information of the conventional electronic automatic exchange mentioned above, when a failure occurs in a subscriber circuit, since the fault information of a subscriber circuit is not always displayed on a maintenance terminal, it has the problem that a maintenance man cannot recognize fault information of the real time of a subscriber circuit in an instant.

[0004] The purpose of this invention is by displaying the fault information of a subscriber circuit on a maintenance terminal to offer the notice method of fault information of the electronic automatic exchange with which a maintenance man can recognize the fault information of a subscriber circuit on real time.

[0005]

[Means for Solving the Problem] If this invention detects the failure of a subscriber circuit with the self-test means formed in the subscriber circuit in the notice method of fault information of the

stored-program-control-type electronic automatic exchange, notifies fault information to a central processing unit with the notice means of a failure formed in the subscriber circuit using a time slot, registers and updates the fault-information management data in a central processing unit with the central processing unit which stores failure data management and has a display demand from a maintenance terminal, it is characterized by to transmit and display fault information on a maintenance terminal.

[0006] Moreover, as for this invention, it is desirable to include said fault information management data's accomodated location information and fault information of a subscriber.

[0007]

[Example] Next, the example of this invention is explained with reference to a drawing.

[0008] Drawing 1 is the block diagram showing one example of this invention. In drawing 1, the subscriber 10 is held in the subscriber circuit 11. Lines is concentrated with a line concentrator 15, and multiplex [of the subscriber circuit 11] is further carried out with multiplexer 16, and it is connected to the speech path switch 17. The speech path switch 17 is controlled by the central processing unit 18, and the maintenance terminal 19 is connected to the central processing unit 18. Moreover, the subscriber circuit 11 is equipped with the self-test section 13 and the notice section 14 of a failure other than the subscriber circuit section 12. Subscriber circuit failure data are stored in the central processing unit 18 by failure data management.

[0009] Drawing 2 shows the structure of the data file of the data management in a central processing unit, and consists of a subscriber's accomodated locations 21 and fault information 22. Drawing 3 shows the flow chart of the data control section of the data management in a central processing unit, and consists of a registration demand step 301 and a management data registration / updating step 302. Drawing 4 shows the flow chart of the data retrieval section of the data management in a central processing unit, and consists of a display demand step 401 and a management data transmitting step 402.

[0010] Next, a failure occurs in a subscriber circuit 11 and actuation in case the situation is displayed on a maintenance terminal 19 is explained.

[0011] If a failure is detected by the self-test section 13 in a subscriber circuit 11, the notice section 14 of a failure will secure the time slot of a line concentrator 15. The notice section 14 of a failure carries fault information on this time slot. After a time slot including fault information is multiplexed by the multiplexer 16, it is sent to the speech path switch 17.

[0012] Only when the fault information in a time slot was detected, it judges whether there is any need for registration and updating at the registration demand step 301 and fault information has change, the manager 1 of a central processing unit 18 is set to registration / updating step 302, and registers and updates the accomodated location 21 in fault information management data, and the contents of fault information 22. Therefore, the newest fault information is always stored in fault information management data.

[0013] If there is a display demand from a maintenance terminal 19, it will judge that the manager 2 had a display demand in the display demand step 401, and fault information will be transmitted to a maintenance terminal 19 in the management data transmitting step 402.

[0014] Thus, this example can always display the fault information of a subscriber circuit 11 on a maintenance terminal 19.

[0015]

[Effect of the Invention] Since the fault information of a subscriber circuit can always be displayed on a maintenance terminal by this invention's preparing the self-test section which detects the failure of a subscriber circuit, and the notice section of a failure which notifies the failure into a subscriber circuit as explained above, and managing fault information by the failure data management of a central processing unit, it has the effectiveness that a maintenance man can recognize the fault information of a subscriber circuit on real time.

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CLAIMS

[Claim(s)]

[Claim 1] The notice method of the electronic automatic exchange characterized by to transmit and display fault information on a maintenance terminal if the self-test means formed in the subscriber circuit detects the failure of a subscriber circuit in the notice method of fault information of the stored-program-control-type electronic automatic exchange, the notice means of a failure formed in the subscriber circuit notifies fault information to a central processing unit using a time slot, the fault-information management data in a central processing unit registers and updates with the central processing unit which stores failure data management and there is a display demand from a maintenance terminal of fault information.

[Claim 2] The notice method of fault information of the electronic automatic exchange according to claim 1 characterized by said fault information management data including a subscriber's accommodated location information and fault information.

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